

WHAT IS CLAIMED IS:

1. A method of handling organic material adaptable for making an organic layer on a structure which will form part of an organic light-emitting device, comprising the steps of:
 - a) providing the organic material in a powder form;
 - b) placing such organic powder into a die and applying sufficient pressure to the organic powder in the die to cause the organic powder to agglomerate into a solid pellet; and
 - c) removing the pellet from the die.
2. The method of claim 1 wherein step a) includes providing organic hole-transporting material, organic light-emitting material, or organic electron-transporting material.
3. The method of claim 2 wherein step a) further includes providing at least one organic hole-transporting host material and at least one organic dopant material therefor, at least one organic light-emitting host material and at least one organic dopant material therefor, or at least one organic electron-transporting host material and at least one organic dopant material therefor.
4. The method of claim 1 wherein step b) includes placing the organic powder into a die having at least one concave major surface to provide the solid pellet with at least one corresponding convex major surface.
5. The method of claim 1 wherein step b) further includes selecting a temperature of the die in a range from 20°C to 300°C prior to or during applying sufficient pressure to the organic powder in the die.

6. The method of claim 5 wherein step c) further includes reducing the temperature of the die to a range from 20°C to 80°C prior to removing the pellet from the die.

7. A method of making an organic layer from an organic material on a structure which will form part of an organic light-emitting device, comprising the steps of:

- a) providing the organic material in a powder form;
- b) placing such organic powder into a die and applying sufficient pressure to the organic powder in the die to cause the organic powder to agglomerate into a solid pellet;
- c) removing the pellet from the die;
- d) placing the pellet into a thermal physical vapor deposition source disposed in a chamber;
- e) positioning the structure in the chamber and in a spaced relationship with respect to the source;
- f) evacuating the chamber to a reduced pressure; and
- g) applying heat to the source to cause a portion of the pellet to sublime to provide a vapor of the organic material from which the organic layer is made on the structure.

8. The method of claim 7 wherein step a) includes providing organic hole-transporting material, organic light-emitting material, or organic electron-transporting material.

9. The method of claim 8 wherein step a) further includes providing at least one organic hole-transporting host material and at least one organic dopant material therefor, at least one organic light-emitting host material and at least one organic dopant material therefor, or at least one organic electron-transporting host material and at least one organic dopant material therefor.

10. The method of claim 7 wherein step d) includes placing more than one pellet into the thermal physical vapor deposition source.

11. A method of handling sublimable organic material adaptable for making an organic layer on a structure which will form part of an organic light-emitting device, comprising the steps of:

- a) providing the sublimable organic material in a powder form;
- b) providing a thermally conductive and non-sublimable material in a powder form;
- c) forming a mixture of selected portions of the sublimable organic material powder and the thermally conductive and non-sublimable material powder;
- d) placing such mixture into a die and applying sufficient pressure to the mixture in the die to cause the mixture of powders to agglomerate into a solid pellet; and
- e) removing the pellet from the die.

12. The method of claim 11 wherein step a) includes providing organic hole-transporting material, organic light-emitting material, or organic electron-transporting material.

13. The method of claim 12 wherein step a) further includes providing at least one organic hole-transporting host material and at least one organic dopant material therefor, at least one organic light-emitting host material and at least one organic dopant material therefor, or at least one organic electron-transporting host material and at least one organic dopant material therefor.

14. The method of claim 11 wherein step b) includes providing a material selected from the group consisting of carbon, silicon, silicon dioxide, metals, metal oxides, and metal alloys.

15. The method of claim 11 wherein step c) includes selecting a portion of the sublimable organic material powder in a range from 50 to 99 weight percent and selecting a portion of the thermally conductive and non-sublimable material powder in a range from 1.0 to 50 percent weight percent.

16. The method of claim 11 wherein step d) includes placing the mixture into a die having at least one concave major surface to provide the solid pellet with at least one corresponding convex major surface.

17. The method of claim 11 wherein step d) further includes selecting a temperature of the die in a range from 20°C to 300°C prior to or during applying sufficient pressure to the mixture in the die.

18. The method of claim 17 wherein step e) further includes reducing the temperature of the die to a range from 80°C to 20°C prior to removing the pellet from the die.

19. A method of making an organic layer from an organic material on a structure which will form part of an organic light-emitting device, comprising the steps of:

- a) providing a sublimable organic material in a powder form;
- b) providing a thermally conductive and non-sublimable material in a powder form;
- c) forming a mixture of selected portions of the sublimable organic material powder and the thermally conductive and non-sublimable material powder;

- d) placing such mixture into a die and applying sufficient pressure to the mixture in the die to cause the mixture of powders to agglomerate into a solid pellet;
- e) removing the pellet from the die;
- f) placing the pellet into a thermal physical vapor deposition source disposed in a chamber;
- g) positioning the structure in the chamber and in a spaced relationship with respect to the source;
- h) evacuating the chamber to a reduced pressure; and
- i) applying heat to the source to cause a portion of the pellet to sublime to provide a vapor of the organic material from which the organic layer is made on the structure.

20. The method of claim 19 wherein step a) includes providing organic hole-transporting material, organic light-emitting material, or organic electron-transporting material.

21. The method of claim 20 wherein step a) further includes providing at least one organic hole-transporting host material and at least one organic dopant material therefor, at least one organic light-emitting host material and at least one organic dopant material therefor, or at least one organic electron-transporting host material and at least one organic dopant material therefor.

22. The method of claim 19 wherein step b) includes providing a material selected from the group consisting of carbon, silicon, silicon dioxide, metals, metal oxides, and metal alloys.

23. The method of claim 19 wherein step c) includes selecting a portion of the sublimable organic material powder in a range from 50 to 99 weight

percent and selecting a portion of the thermally conductive and non-sublimable material powder in a range from 1 to 50 weight percent.

24. The method of claim 19 wherein step f) includes placing more than one pellet into the thermal physical vapor deposition source.

25. A method of handling sublimable organic material adaptable for making an organic layer on a structure which will form part of an organic light-emitting device, comprising the steps of:

- a) providing at least one sublimable organic host material in a powder form;
- b) providing at least one sublimable organic dopant material in a powder form and as a selected weight fraction of the organic host material;
- c) forming a first mixture of the at least one organic host material and the at least one organic dopant material;
- d) providing a thermally conductive and non-sublimable material in a powder form;
- e) forming a second mixture of selected portions of the first mixture and the thermally conductive and non-sublimable material powder;
- f) placing such second mixture into a die and applying sufficient pressure to the second mixture in the die to cause the second mixture of powders to agglomerate into a solid pellet; and
- g) removing the pellet from the die;

26. The method of claim 25 wherein step a) includes providing at least one organic hole-transporting host material, at least one organic light-emitting host material, or at least one organic electron-transporting host material.

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27. The method of claim 25 wherein step d) includes providing a material selected from the group consisting of carbon, silicon, silicon dioxide, metals, metal oxides, and metal alloys.

28. The method of claim 25 wherein step e) includes selecting a portion of the first mixture in a range from 50 to 99 weight percent and selecting a portion of the thermally conductive and non-sublimable material powder in a range from 1.0 to 50 percent weight percent.

29. The method of claim 25 wherein step f) includes placing the second mixture into a die having at least one concave major surface to provide the solid pellet with at least one corresponding convex major surface.

30. The method of claim 25 wherein step f) further includes selecting a temperature of the die in a range from 20°C to 300°C prior to or during applying sufficient pressure to the second mixture in the die.

31. The method of claim 30 wherein step g) further includes reducing the temperature of the die to a range from 80°C to 20°C prior to removing the pellet from the die.

32. A method of making an organic layer from an organic material on a structure which will form part of an organic light-emitting device, comprising the steps of:

- a) providing at least one sublimable organic host material in a powder form;
- b) providing at least one sublimable organic dopant material in a powder form and as a selected weight fraction of the organic host material;
- c) forming a first mixture of the at least one organic host material and the at least one organic dopant material;

- d) providing a thermally conductive and non-sublimable material in a powder form;
- e) forming a second mixture of selected portions of the first mixture and the thermally conductive and non-sublimable material powder;
- f) placing such second mixture into a die and applying sufficient pressure to the second mixture in the die to cause the second mixture of powders to agglomerate into a solid pellet;
- g) removing the pellet from the die;
- h) placing the pellet into a thermal physical vapor deposition source disposed in a chamber;
- i) positioning the structure in the chamber and in a spaced relationship with respect to the source;
- j) evacuating the chamber to a reduced pressure; and
- k) applying heat to the source to cause a portion of the pellet to sublime to provide a vapor of the first mixture of organic materials from which the organic layer is made on the structure.

33. The method of claim 32 wherein step a) further includes providing at least one organic hole-transporting host material, at least one organic light-emitting host material, or at least one organic electron-transporting host material.

34. The method of claim 33 wherein step b) further includes providing at least one organic dopant material selected as a dopant for the at least one organic hole-transporting host material, at least one organic dopant material selected as a dopant for the at least one organic light-emitting host material, or at least one organic dopant material selected as a dopant for the at least one organic electron-transporting host material.

35. The method of claim 32 wherein step d) includes providing a material selected from the group consisting of carbon, silicon, silicon dioxide, metals, metal oxides, and metal alloys.

36. The method of claim 32 wherein step h) includes placing more than one pellet into the thermal physical vapor deposition source.

For reference